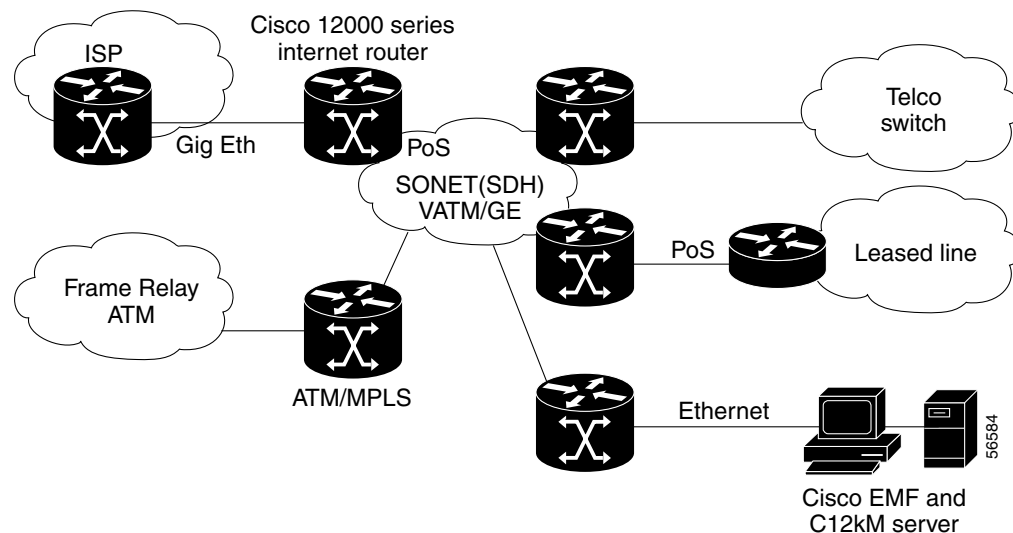




Overview

This chapter provides an overview of the Cisco 12000 series internet routers and the Cisco 12000 Manager (C12kM) application. The Cisco 12000 series internet routers are part of Cisco's premier routing product family and play an integral part in the network architecture. The Cisco 12000 series internet routers were designed and developed for the core of service provider and enterprise IP backbones. [Figure 1-1](#) shows a typical Cisco 12000 series internet routers deployment. The C12kM application supports seven Cisco 12000 series internet routers: the Cisco 12008, Cisco 12012, Cisco 12016, Cisco 12406, Cisco 12404, Cisco 12410, and Cisco 12416.

Figure 1-1 Typical Cisco 12000 Series Internet Router Deployment



The C12kM application works in conjunction with the Cisco Element Management Framework (Cisco EMF) application to provide element management for the Cisco 12000 series internet routers. Element management tasks can include equipment provisioning, fault monitoring, interface configuration, and gathering and displaying interface performance statistics.

This chapter describes the following information:

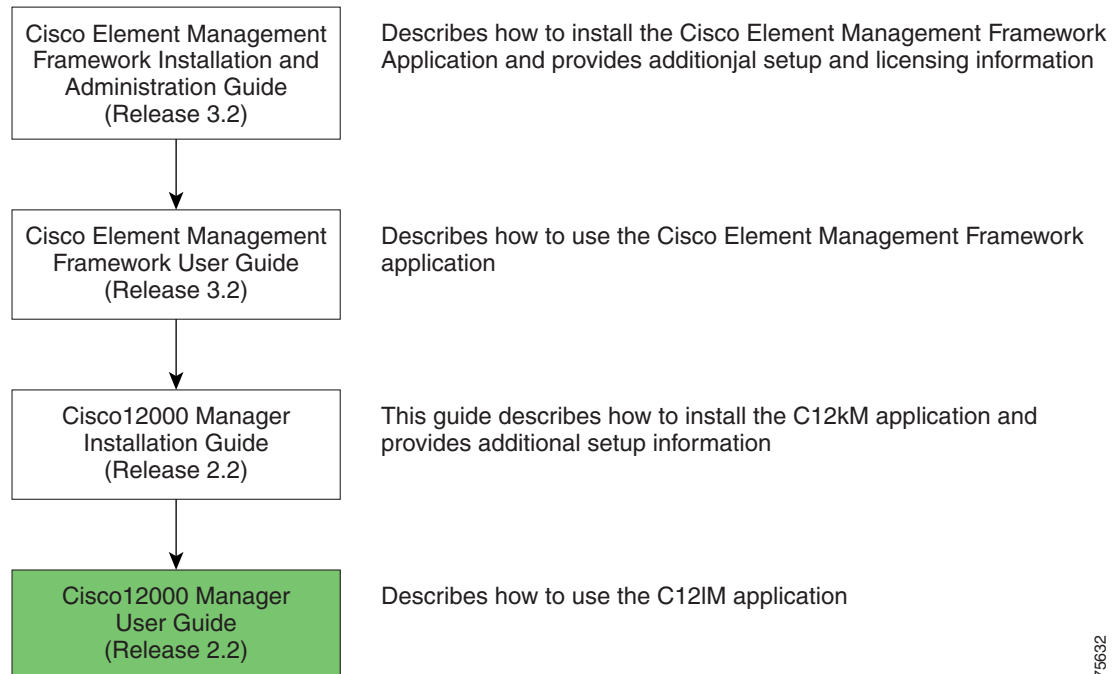
- [C12kM Documentation Set](#)
- [Cisco Element Manager Framework \(Cisco EMF\) Software](#)
- [C12kM Software](#)
- [Key Features of the C12kM Software](#)

- [Accessing Online Help](#)

C12kM Documentation Set

This Guide is one part of the C12kM documentation set. [Figure 1-2](#) displays all of the Guides in the C12kM documentation set and details the contents of each.

Figure 1-2 C12kM Documentation Set



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The Guides identified in [Figure 1-2](#) are available from Cisco Systems. Refer to the [Obtaining Documentation](#) section in the [About This Guide](#) chapter for further details on obtaining Cisco documentation.

Cisco Element Manager Framework (Cisco EMF) Software

Cisco EMF is an open carrier class management system, designed to integrate with third party products and proprietary operational support systems.

Many different management protocols, both standards-based and proprietary, are supported by Cisco EMF in a transparent manner. New network devices are managed instantly and new management applications can be quickly developed to meet new requirements.

Cisco EMF systems architecture provides a distributed network management solution designed to manage large-scale networks. Cisco EMF provides the performance required within the logical and physical architecture and provides user interfaces that support the need to perform mass operations to large domains within the overall network. In addition, due to the distributed nature of Cisco EMF, administration tools are provided to “manage” the management system. Refer to the *Cisco Element Management Framework User Guide Release 3.2 (78-12536-01)* for further details.

Map Viewer is the primary entry point into the C12kM software. When Map Viewer is launched, the application is displayed corresponding to the highlighted map icon in the hierarchy pane. You can easily monitor the status of all network elements or abstractions of elements contained within the network and you can launch any additional applications available. Refer to the “[Map Viewer \(Viewer\)](#)” section on [page 3-5](#) for further details.

C12kM Software

The C12kM application is a carrier class Element Manager (EM) that allows you to manage Cisco 12000 series internet routers. C12kM adds custom windows and modeling behavior to the standard Cisco EMF to allow the management of the Cisco 12000 series internet routers.

**Note**

This Guide describes the extra concepts and operating instructions for the C12kM EM. Refer to the *Cisco Element Management Framework User Guide Release 3.2 (78-12536-01)* for further details on Cisco EMF.

Key Features of the C12kM Software

C12kM features include the following:

- Maps for Chassis representation of 12000 objects
- C12kM windows and wizards—Eliminate the need for operators to have detailed Cisco IOS software and SNMP-based knowledge for individual interface or system parameter commands
- C12kM deployment—eases deployment of large networks by enabling template-based element configuration, operations, administration, and maintenance
 - Pre-deployment of chassis, GRP, line cards and interfaces
 - AutoDiscovery—Automatically discovers existing Cisco 12000 series routers
- Comprehensive fault management system—for chassis, line card, and interfaces
- Configuration Backup/Restore—Backs up and saves the running configuration of a device and its modules so that if a hardware failure occurs, you can restore configuration
- Configuration Editor—Uploads and saves the running configuration on a device for editing
- Configuration operations—Performs in bulk to numerous Cisco 12000 series routers
- C12kM Management—Fault, Configuration, Accounting, Performance, and Security (FCAPS) Element Management of Cisco 12000 series routers using Cisco EMF windows
- Interface profiles—Enables you to apply the same parameters to a large number of objects at one time
- Layer 3 QoS support—Includes Committed Access Rate (CAR), Weighted Random Early Detection (WRED), WRED ToFab and Modified Deficit Round Robin (MDRR)

- Line cards and interfaces— Supports various line cards and interfaces, such as packet-over-SONET (POS), Asynchronous Transfer Mode (ATM), Digital Signal 3 (DS3), Dynamic Packet Transport (DPT), Spatial Reuse Protocol (SRP) and Gigabit and Fast Ethernet
- Cisco IOS releases—Easily downloads new software releases from C12kM onto devices
- PVCs and associated QoS profiles—Uploads existing PVCs and associated QoS profiles from any device into C12kM
- Subchassis discovery—Determines the physical chassis contents, such as line cards and interfaces
- Rediscover Line Cards after online insertion or removal (OIR)
- Route Processor Redundancy Plus (RPR+) support for chassis management
- VLAN Management—configuration and performance monitoring of the VLAN sub-interfaces
- VLAN Synchronization—uploads the existing VLAN information from the network into C12kM

Accessing Online Help

Each window has the option to click the Help icon,  or to select **Help** from the menu bar. A list of help topics is displayed.